

REMARKS

This communication is in response to the Office Action ("Office Action") mailed on September 5, 2002, in which Claims 1-28 were rejected. Claims 1-28 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,822,539 to van Hoff ("van Hoff") in view of U.S. Patent No. 6,332,144 to deVries et al. ("deVries"). Thus, the claims pending for reconsideration are Claims 1-28. Additionally, the Information Disclosure Statement previously submitted on June 24, 1999, was only partially considered, as some references did not have accompanying dates. Applicants affirm that it is applicants' understanding that these references were publicly available at least as early as the date on which they were downloaded from the Internet and printed, namely March 20, 1999 with respect to the "Alexa 3.0 - Quick Tour" references and October 14, 1998 with respect to the "A Protocol for Scalable Group and Public Annotations" reference. Additionally, the abstract was objected to. Since applicants could find none of the criteria cited as the basis for the objection to the current abstract, the abstract has not been amended.

If the objection to the abstract is continued, applicants request a more accurate explanation of the errors. Further, the Examiner objected to the specification for containing uniform resource locators that form "browser-executable code." Applicants have taken the Examiner's suggested modification of including quotation marks around the uniform resource locators. For the reasons set forth below, applicants respectfully request reconsideration and allowance of this application.

Prior to discussing the reasons why applicants believe that the claims as amended in this application are allowable, a brief discussion of the present invention, followed by a brief discussion of the cited and applied references, is presented. The following discussion of applicants' invention and the cited and applied references are not provided to define the scope or

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interpretation of any of the claims of this application. Instead, these discussions are provided to help the United States Patent and Trademark Office (hereinafter "the Office") better appreciate important claim distinctions discussed thereafter.

Summary of the Invention

The present invention addresses one of the shortcomings of previous forms of providing content by providing the ability to scalably associate annotations with a vast number of content sources. Each annotation is represented by an object with a number of properties. One of those properties is a document identifier. The document identifier identifies the content source with which the annotation is associated.

In one embodiment of the present invention an annotation post is sent from a client to a tier III server, which stores a portion of the annotation post on the tier III server as the body of the annotation. Another portion of the annotation post is sent from the tier III server to a tier II server as index material for the annotation body to be stored on the tier II server. Next, the tier II server sends association information to a tier I server to associate the annotation body and index with a particular annotated content source. The tier I and tier II servers are separate and distinct. Because the tier servers are separate and distinct, embodiments of the present invention are readily scalable.

As can be seen from the above description, the present invention provides multiple tiers of servers that progressively provide more specific information about an annotation associated with a content source. It will further be appreciated by those of ordinary skill in the art and others that a tiered server computing environment is a scalable environment because each tier of servers provides minimal information. A tier I server can point to a plurality of tier II servers for more detailed information and the tier II servers in turn can point to still further tier III servers

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for even more information, thereby distributing both the bandwidth processing and memory loads associated with obtaining progressively more detailed information.

Summary of the Principal References Cited

The van Hoff Reference

The van Hoff reference provides an automated document annotation system that adds hypertext cross references to documents requested by a client computer. Van Hoff's documentation annotation system preferentially includes a proxy server on a client computer that manages and merges documents received from a network to include annotations. The reference indicates that such an annotation module may be present on a remote computer, as well. Essentially, van Hoff discloses a conventional online annotation system with no accommodation or need for a scalable annotation system to accommodate a vast number of participants, documents and/or annotations. van Hoff does not disclose a scalable multiple tier computing system.

The deVries Reference

The deVries reference provides a multimedia annotation system in a networked environment. The annotation system of deVries includes a number of servers (a librarian, an index database server, a media database server, etc.). Similar to van Hoff, deVries allows for online annotations to online information, but unlike van Hoff it does not provide for annotating documents. Specifically, deVries is directed to annotating digital video and/or audio streams in an online environment. DeVries has no provision for increased loads due to potentially vast numbers of annotations or Web pages. As with van Hoff, deVries does not disclose a scalable multiple tier computing system.

The Claims Distinguished

Rejection of Claims 1-9 Under 35 U.S.C. § 103(a)

Claim 1 has been amended to more clearly point out and distinctly claim the present invention. Accordingly, applicants submit that the 35 U.S.C. § 103(a) rejection of Claim 1 no longer applies. More specifically, as amended, Claim 1 reads as follows:

1. A computing system for scalably managing annotations, the computing system comprising:
 - a tier III server to store data for the annotations;
 - a tier II server to maintain an index of the data for the annotations stored on the tier III server; and
 - a tier I server to determine if a content source has data indexed by the tier II server, wherein the tier I server is separate and distinct from the tier II server.

Neither van Hoff nor deVries teaches, discloses, or suggests a computing system for scalably managing annotations, let alone a computing system for scalably managing annotations using tier I, tier II, and tier III servers. Scalability is the ability to increase the size or volume of a system to meet user demands without loss of functionality. Neither van Hoff nor deVries addresses scalability or the ability to function as the number of annotations and/or content sources increases.

Additionally, neither van Hoff nor deVries teaches, discloses, or suggests a tier I server that is separate and distinct from the tier II server. The tier I server of Claim 1 determines if a content source has data indexed by a tier II server. Neither van Hoff nor deVries teaches, discloses, or suggests a device that determines if a content source has data indexed by the tier II server that is separate and distinct from the tier II server.

Therefore, applicants assert that Claim 1 is clearly in condition for allowance. Since Claims 2-9 all depend from Claim 1, Claims 2-9 are submitted to be allowable for at least the reasons noted above.

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Since Claims 2-9 additional recitations that further distinguish them from the teachings of van Hoff and deVries, then are also submitted to be allowable for additional reasons. For example, Claim 7 recites client software stored on a tier III server to allow a user to view a type of annotation. There is no teaching in either van Hoff or deVries of providing client software to allow a user to view an annotation. Further, the Office Action has no other citation that either teaches, discloses, or suggests such client software. Accordingly, Claim 7 is submitted to be allowable for this reason as well.

Rejection of Claims 10-21 Under 35 U.S.C. § 103(a)

Claim 10 has been amended to more clearly point out and distinctly claims the present invention. Accordingly, applicants submit that the 35 U.S.C. § 103(a) rejection of Claim 10 no longer applies. More specifically, as amended, Claim 10 reads as follows:

10. A scalable computerized method of posting an annotation, the method comprising:
sending an annotation post from a client to a tier III server;
storing a portion of the annotation on the tier III server;
sending a second portion of the annotation from the tier III server to a tier II server;
storing the second portion of the annotation on the tier II server;
sending association information from the tier II server to a tier I server;
and
storing the association information on the tier I, wherein the tier I server is separate and distinct from the tier II server.

As already noted above with regard to Claim 1, neither van Hoff nor deVries teaches, discloses, or suggests a scalable computing system. Consequently, with regard to Claim 10, neither reference teaches a scalable method of posting an annotation. As neither van Hoff nor deVries addresses scalability or the ability to function as the number of annotations and/or content sources increases, Claim 10 is submitted to be allowable for this reason alone.

Claim 10 also recites a recitation of storing association information on a tier I server, wherein the tier I server is separate and distinct from the tier II server. As neither van Hoff nor

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deVries teaches a tier I server, let alone a tier I server that is separate and distinct from a tier II server for use in a scalable computerized method, applicants assert that Claim 10 is allowable for this reason as well.

Therefore, applicants assert that Claim 10 is clearly in condition for allowance. Since Claims 11-21 all depend from Claim 10, Claims 11-21 are submitted to be allowable for at least the reasons noted above.

Since Claims 11-21 include additional recitations that further distinguish them from the teachings of van Hoff and deVries, they are submitted to be allowable for additional reasons. For example, Claim 12 recites "notifying the client of a successful post to the tier III server." Neither deVries nor van Hoff teaches, discloses, or suggests notifying a client of a successful post to a tier III server. In fact, there is no teaching of notifying the client of a successful post of an annotation to any server as far as the applicants have been able to determine. Accordingly, Claim 12 is submitted to be allowable for this reason as well.

Similarly, Claim 14 recites "notifying the tier III server of a successful post to the tier II server." As neither deVries nor van Hoff teaches, discloses, or suggests such communications between separate annotation servers, clearly neither reference teaches notifying a tier III server of a successful post to a tier II server. Therefore, Claim 14 is submitted to be allowable for this reason as well.

Claim 5 recites notifying a tier II server of a successful post to a tier I server. Since neither deVries nor van Hoff teaches a tier I server, Claim 15 is submitted to be allowable for this additional reason.

Rejection of Claims 22-24 Under 35 U.S.C. § 103(a)

Claims 22-24 have been amended to more clearly point out and distinctly claim the present invention. Accordingly, applicants submit that the 35 U.S.C. § 103(a) rejections of

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Claims 22-24 are no longer viable. In this regard, Claims 22-24 have been amended to read as follows:

22. A computer-readable medium having stored thereon a "client-to-tier III server" data structure for scalable annotations, comprising:
a first field containing data representing a context document identifier;
a second field containing data representing a body of the annotation;
a third field containing data representing generic properties of the annotation;
a fourth field containing data representing type specific properties of the annotation;
a fifth field containing data representing a URL for a tier III server for receiving and storing a portion of the post of the annotation;
a sixth field containing data representing a URL for a tier II server for receiving and storing a portion of the post of the annotation; and
a seventh field containing data representing a URL for a tier I server for receiving and storing associations for the annotation, wherein the URL for the tier I server is distinct from the URL for the tier II server.

23. A computer-readable medium having stored thereon a "tier III server-to-tier II server" data structure for scalable annotations, comprising:
a first field containing data representing a context document identifier;
a second field containing data representing generic properties of the annotation;
a third field containing data representing a URL for a tier III server for receiving and storing a portion of the post of the annotation;
a fourth field containing data representing an identifier for the portion of the post of the annotation stored on the tier III server;
a fifth field containing data representing a URL for a tier II server for receiving and storing a portion of the post of the annotation; and
a sixth field containing data representing a URL for a tier I server for receiving and storing associations for the annotation, wherein the URL for the tier I server is distinct from the URL for the tier II server.

24. A computer-readable medium having stored thereon a "tier II server-to-tier I" server data structure for scalable annotations, comprising:
a first field containing data representing a context document identifier;
a second field containing data representing an indexing identifier of the annotation;
a third field containing data representing a URL for a tier II server for indexing the annotation; and

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a fourth field containing data representing a URL for a tier I server for receiving and storing associations for the annotation, wherein the URL for the tier I server is distinct from the URL for the tier II server.

As already noted with regard to Claim 1 and Claim 10 above, neither van Hoff nor deVries teaches, discloses, or suggests a tier I server, let alone a tier I server that has a URL that is distinct from the URL for the tier II server. Accordingly, as neither deVries nor van Hoff teaches a tier I server, clearly neither reference teaches, suggests or discloses a computer-readable medium having stored thereon a data structure for scalable annotations. As van Hoff and deVries are not directed to an annotation system that is scalable in order to handle an increased numbers of users, it is apparent that neither van Hoff nor deVries render these claimed computer-readable media obvious under 35 U.S.C. § 103(a). Accordingly, Claims 22-24 are submitted to be allowable.

Rejection of Claims 25-28 Under 35 U.S.C. § 103(a)

Claim 25 has been amended to more clearly point out and distinctly claim the present invention. Accordingly, applicants submit that the 35 U.S.C. § 103(a) rejection of Claim 25 is no longer applicable. More specifically, as amended, Claim 25 reads as follows:

25. (Amended) A scalable computerized method for managing annotations, the method comprising:
storing within a tier I server a plurality of associations with references to a tier II server for each association;
storing within a tier II server an indexing identifier for each one of the annotations and storing within the tier II server a reference to a tier III server for each one of the annotations;
storing within a tier III server content for each one of the annotations;
receiving by the tier I server from a client a context document identifier;
and
providing a first response to the client from the tier I server, wherein the first response comprises one or more associations for the context document identifier and the reference to the tier II server for each one of the associations, and wherein the tier I server is separate and distinct from the tier II server.

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As already noted, neither van Hoff nor deVries teaches, discloses or suggests a scalable method, let alone a scalable method using a multiple tier computing system for managing annotations in a multiple tier environment. As neither van Hoff nor deVries addresses scalability or the ability to function as the number of annotations and/or documents increases, clearly neither van Hoff nor deVries, alone or in combination, renders Claim 25 obvious. Therefore, applicants assert that Claim 25 is now in condition for allowance. Since Claims 26-28 all depend from Claim 25, Claims 26-28 are submitted to be allowable for at least the reasons noted above.

Claims 26-28 include additional recitations that further distinguish them from the teaching of van Hoff and deVries and, thus, are submitted to be allowable for additional reasons. For example, Claim 26 recites "providing a second response to the client from the tier II server." Neither van Hoff nor deVries teaches receiving a second response to the client, let alone a second response that "comprises a header for each one of the annotations associated with the context document identifier and the reference to the tier III server for each one of the annotations." The second response improves the scalable benefit of the present invention. A first response is received from a tier I server which gives a simple and quick response indicating whether annotations exist, while the second response from the tier II server gives further information and an indication of where to find a tier III server. Such behavior and capabilities are not taught, disclosed or suggested by either van Hoff or deVries. Accordingly, Claim 26 is submitted to be allowable for this reason as well.

Claim 27 includes the recitation of "providing a third response to the client from the tier III server." Since neither van Hoff nor deVries teaches a third response, Claim 27 submitted to be allowable for this reason as well.

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Combination of van Hoff and deVries References

In the Office Action it is asserted that van Hoff teaches all the elements of Claims 1-28 except aspects of the tier II server. It is also asserted that deVries teaches these aspects of a tier II server, and that with respect to Claim 1: "It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have modified deVries into van Hoff to provide a server maintaining index database with an index of annotation data stored on a proxy server 118 to be retrieved and annotated on a document in order to provide an efficient searching, browsing and retrieving annotating media in a data processing environment." Without addressing the accuracy of these individual assertions, applicants submit that this assertion, as well as other like assertions in the Office Action is based on impermissible hindsight construction of the claimed invention. Van Hoff is an HTML-based system for processing online document annotations. DeVries is a video/audio annotation system with specific servers for annotation handling audio/video annotation processing and indexing in an online environment. Applicants submit that one of ordinary skill in the art would not be motivated to combine the text-based annotation of van Hoff with streaming audio/video annotation of deVries. These are separate technologies with little in common other than a similarity in both having non-scalable client-server environments. Accordingly, applicants submit that there is no motivation for one of ordinary skill in the art to combine the teaching of these references.

Applicants submit that rejection of Claims 1-28 is predicated on combining prior art references that contain no teaching or suggestion of how the cited references could be combined in any manner, much less the manner recited in the rejected claims. Simply put, the cited and applied prior art taken alone or in combination simply does not teach or suggest the subject matter of Claims 1-28. The Office Action fails to point out any suggestion in the art for the

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desirability of the suggested modification absent the interpretation of the teachings of the applicants' disclosure. The rejection is using hindsight reasoning based on an inaccurate interpretation of the present disclosure to "produce" the claimed invention. The references do not teach or suggest how they could be combined in any manner, much less the manner recited in the rejected independent Claims 1, 10, and 22-25. In this regard, the Examiner's attention is directed to the following Federal Circuit and C.C.P.A. decisions:

It is wrong to use the patent in suit as a guide through the maze of prior art references, combining the right references in the right way so as to achieve the result of the claims in suit. Monday morning quarterbacking is quite improper when resolving the question of nonobviousness in a court of law. *Orthopedic Equipment, Inc. v. United States*, 217 U.S.P.Q. 193, 199 (Fed. Cir. 1983).

Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination. Under Section 103, teachings of references can be combined only if there is some suggestion or incentive to do so. *ACS Hospital Systems, Inc. v. Montefiore Hospital*, 221 U.S.P.Q. 929, 933 (Fed. Cir. 1984).

The *ACS Hospital Systems, Inc. v. Montefiore Hospital* decision has been cited with approval by the Federal Circuit. See *In re Geiger*, 2 U.S.P.Q. 2d 1276, 1278 (Fed. Cir. 1987). Similar statements have been made in many decisions of the Board of Appeals.

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Nor do we see any suggestion in either of the references which would lead anyone having ordinary skill in the art to combine the structure taught by either reference with that taught by the other.

In order to justify a combination of references such as is here suggested it is necessary not only that it be physically possible to combine them, but the art should contain something to suggest the desirability of doing so. Since the art does not suggest the use of either of the patented devices for . . . there is nothing to indicate that one should be modified in view of the other for that purpose. *Ex parte Walker*, 135 U.S.P.Q. 195, 196 (Bd. App. 1962).

We have studied the references and the manner in which the examiner proposes to combine their teachings but we are unable to find in these references any suggestion that they should or could be combined, absent appellant's disclosure in the present application. *Ex parte Lennox*, 144 U.S.P.Q. 224, 225 (Bd. App. 1964).

While as an abstract proposition it might be possible to select features from the secondary references, as the examiner has done, and mechanically combine them with the Mallin device to arrive at appellant's claimed combination, we find absolutely no basis for making such combination neither disclosed nor suggested in the patents relied upon. **In our view only appellant's specification suggests any reasons for combining the features of the secondary references with the primary reference and under the provisions of 35 U.S.C. 103 that does not**

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constitute a bar. *Ex parte Fleischmann*, 157 U.S.P.Q. 155 (Bd. App. 1967). (Emphasis added.)

In the instant application, the examiner has done little more than cite references to show that one or more elements or subcombinations thereof, when each is viewed in a vacuum, is known. The claimed invention, however, is clearly directed to a combination of elements. That is to say, appellant does not claim that he has invented one or more new elements but has presented claims to a new combination of elements. To support the conclusion that the claimed combination is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed combination or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references. *Ex parte Clapp*, 227 U.S.P.Q. 972, 973 (Bd. App. 1985). (Emphasis added.)

In summary, applicants submit that Claims 1-28 are clearly allowable in view of a lack of teaching, disclosure or suggestion for combination or modification in the cited and applied references taken alone or in combination. Even if the references were combinable in the manner discussed in the remarks accompanying the rejection of the claims, which applicants specifically deny, the resultant combination would not meet all of the recitations of the claims, as noted above.

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CONCLUSION

In view of the foregoing remarks, applicants submit that the present application is now in condition for allowance. Reconsideration and reexamination of this application, as amended, allowance of the rejected claims and passage of the application to issue at an early date is respectfully solicited. If the Examiner has any questions or comments concerning this application, the Examiner is invited to contact the applicants' undersigned attorney at the number below.

Respectfully submitted,

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I hereby certify that this correspondence is being deposited with the U.S. Postal Service in a sealed envelope as first class mail with postage thereon fully prepaid and addressed to the U.S. Patent and Trademark Office, P.O. Box 2327, Arlington, VA 22202, on the below date.

Date:

November 19, 2002

Samela M. Tucker

ALP:kg

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VERSION WITH MARKINGS TO SHOW CHANGES MADE NOVEMBER 19, 2002

In the Specification:

Please amend the Cross-Reference section beginning on page 1, line 19, to read as follows:

CROSS-REFERENCES TO RELATED APPLICATIONS

This application is related to co-filed and co-assigned [US patent application] U.S. Patent Application No. 09/339,635, filed on June 24, 1999, entitled "Scalable Computing System for Managing Dynamic Communities." [[Attorney docket #777.210us1 / Client ref. #130670.1].]

This application is also related to co-filed and co-assigned [US patent application] U.S. Patent Application No. 09/339,634, filed on June 24, 1999, entitled "Associating Annotations with a Content Source." [[Attorney docket # 777.204us1 / Client ref. #124209.1].]

Please amend the paragraph beginning at page 29, line 7, to read as follows:

The data format for an example "CheckForAnnotations" request is listed below. The example request checks for any annotations associated with [<http://www.microsoft.com/>] "<http://www.microsoft.com>".

Please amend the paragraph beginning at page 29, line 21, to read as follows:

The data format for an example response to the "CheckForAnnotations" request is listed below. The example response indicates that two communities (France 98 and Cranberries) annotated [http://www.microsoft.com] "<http://www.microsoft.com>".

Please amend the paragraph beginning at page 31, line 14, to read as follows:

The data format for an example response to the "GetAnnotationTypes" request is listed below. The example response indicates there are two threaded messages, one chat and no file libraries associated with [<http://www.microsoft.com/>] "<http://www.microsoft.com>" in the community "50" space.

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Please amend the paragraph beginning at page 33, line 1, to read as follows:

The data format for an example response to the "GetAnnotationHeaders" request is listed below. The example response indicates that there are two threaded messages associated with [http://www.microsoft.com] "http://www.microsoft.com" that were annotated by community 50. Their headers are included in the response.

In the Claims:

1. (Amended) A computing system for scalably managing annotations, the computing system comprising:

a tier III server to store data for the annotations;

a tier II server to maintain an index of the data for the annotations stored on the tier III server; and

a tier I server to determine if a content source has data indexed by the tier II server, wherein the tier I server is separate and distinct from the tier II server.

10. (Amended) A scalable computerized method of posting an annotation, the method comprising:

sending an annotation post from a client to a tier III server;

storing a portion of the annotation on the tier III server;

sending a second portion of the annotation from the tier III server to a tier II server;

storing the second portion of the annotation on the tier II server;

sending association information from the tier II server to a tier I server; and

storing the association information on the tier I, wherein the tier I server is separate and distinct from the tier II server.

22. (Amended) A computer-readable medium having stored thereon a "client-to-tier III server" data structure for scalable annotations, comprising:

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a first field containing data representing a context document identifier;
a second field containing data representing a body of the annotation;
a third field containing data representing generic properties of the annotation;
a fourth field containing data representing type specific properties of the annotation;
a fifth field containing data representing a URL for a tier III server for receiving and storing a portion of the post of the annotation;
a sixth field containing data representing a URL for a tier II server for receiving and storing a portion of the post of the annotation; and
a seventh field containing data representing a URL for a tier I server for receiving and storing associations for the annotation, wherein the URL for the tier I server is distinct from the URL for the tier II server.

23. (Amended) A computer-readable medium having stored thereon a "tier III server-to-tier II server" data structure for scalable annotations, comprising:

a first field containing data representing a context document identifier;
a second field containing data representing generic properties of the annotation;
a third field containing data representing a URL for a tier III server for receiving and storing a portion of the post of the annotation;
a fourth field containing data representing an identifier for the portion of the post of the annotation stored on the tier III server;
a fifth field containing data representing a URL for a tier II server for receiving and storing a portion of the post of the annotation; and
a sixth field containing data representing a URL for a tier I server for receiving and storing associations for the annotation, wherein the URL for the tier I server is distinct from the URL for the tier II server.

24. (Amended) A computer-readable medium having stored thereon a "tier II server-to-tier I" server data structure for scalable annotations, comprising:

- a first field containing data representing a context document identifier;
- a second field containing data representing an indexing identifier of the annotation;
- a third field containing data representing a URL for a tier II server for indexing the annotation; and

- a fourth field containing data representing a URL for a tier I server for receiving and storing associations for the annotation, wherein the URL for the tier I server is distinct from the URL for the tier II server.

25. (Amended) A scalable computerized method for managing annotations, the method comprising:

- storing within a tier I server a plurality of associations with references to a tier II server for each association;

- storing within a tier II server an indexing identifier for each one of the annotations and storing within the tier II server a reference to a tier III server for each one of the annotations;

- storing within a tier III server content for each one of the annotations;

- receiving by the tier I server from a client a context document identifier; and

- providing a first response to the client from the tier I server, wherein the first response comprises one [for] or more associations for the context document identifier and the reference to the tier II server for each one of the associations, and wherein the tier I server is separate and distinct from the tier II server.